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November 22, 2019

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington DC 20554

**Re: ET Docket No. 18-295, *Unlicensed Use of the 6 GHz Band*
GN Docket No. 17-183, *Expanding Flexible Use in Mid-Band Spectrum*
Between 3.7 and 24 GHz
Ex Parte Communication**

Dear Ms. Dortch:

The Fixed Wireless Communications Coalition (FWCC) responds to an *ex parte* letter from Boeing Company dated November 1, 2019.¹

Boeing supports, and the FWCC opposes, unlicensed RLANs in the 6 GHz Fixed Service (FS) bands that lack automatic frequency control (AFC).² These would be able to turn on anytime, anywhere, on any 6 GHz frequency, without regard to nearby licensed FS operations, some of which carry safety-critical services.

The proposed RLANs would operate at powers unheard of for unlicensed devices in a band that carries licensed, critical services: 30 dBm EIRP indoors, and 14 dBm EIRP outdoors. Misleadingly, RLAN proponents call these, respectively, “low power indoor” (LPI) and “very low power” (VPL) (outdoor) devices, but in fact these power levels are higher—by orders of magnitude—that any uncontrolled devices the Commission has ever permitted in a licensed band used for critical services.

Boeing even acknowledges that “interference events inevitably will occur for some fixed links,”³—yet maintains that the Commission need not require AFC for these devices. It cites the

¹ Letter from Bruce A. Olcott, counsel to the Boeing Company, to Marlene H. Dortch, Secretary, FCC (filed Nov. 1, 2019) (Boeing Letter).

² Boeing Letter at 1.

³ Boeing Letter at 3.

D.C. Circuit in *ARRL v. FCC* as saying, “Commission precedent does not require the elimination of all interference at all times and all places” for unlicensed operations,⁴ but omits important context. The victim service in that decision was Amateur Radio, which is primarily a hobby service. The critical traffic on many 6 GHz services, and users’ requirements that the services operate virtually flawlessly, requires a more conservative approach.

The unlicensed service in *ARRL v. FCC* was Broadband-over-Power-Line (BPL). Boeing argues that BPL services are like RLANs in being “limited to areas within a short distance of the power lines used” and that RLANs, therefore, should be treated like BPL services.⁵ But the BPL power lines are part of a fixed, capital intensive infrastructure network. They do not move for decades at a time. RLANs, in contrast, will be capable of being deployed anywhere. Many will be specifically designed to be portable.

Most important here, the Commission required BPL operators to establish and maintain a database and points of contact specifically to resolve complaints of interference caused by BPL.⁶ Uncontrolled RLANs would have neither. Under Boeing’s reading, safety-critical 6 GHz fixed services would enjoy *less* protection from RLANs than amateur radio operators receive from BPL, there being no way to resolve even severe and consistent harmful interference caused by a non-AFC RLAN.

Boeing also points to the Commission’s TV White Space (TVWS) decision. It overlooks the Commission’s having put TVWS under the control of a database system that requires advance authorization before transmission, after a check to make sure the authorized frequency will not cause interference⁷—a form of the AFC control that Boeing seeks to reject here.

Finally, the Boeing Letter claims RLANs need only minimize (not eliminate) interference to licensed 6 GHz users, because the Commission required licensed Amateur operators in the 76-81 GHz band to minimize, “not necessarily ... eliminate,” interference to licensed radiolocation in the band.⁸ There, however, both the radiolocation users and the Amateurs are licensed (with the Amateurs being secondary to radiolocation). The RLANs would be unlicensed. Under Commission precedent almost unbroken since the 1930s, they must protect licensed users and will be owed no protection by licensed users.

Fixed service 6 GHz users do build protection measures into their links, but those are designed to ensure highly reliable service despite naturally occurring fades. They are not designed to deal with interference from unlicensed devices. RLAN users cannot push onto licensed users the costs

⁴ *American Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 235 (D.C. Cir. 2008).

⁵ Boeing Letter at 4.

⁶ 47 C.F.R. § 15.615(a)-(d).

⁷ 47 C.F.R. § 15.713.

⁸ Boeing Letter at 4.

of interference mitigation—and the costs of actual interference, which Boeing admits “inevitably” will occur.⁹

Boeing calls for “an appropriate balancing of the needs and interests of the parties.”¹⁰ That must begin with Section 301 of the Communications Act, under which the Commission can “allow the unlicensed operation of a device that emits radio frequency energy *as long as it does not ‘transmit[] enough energy to have a significant potential for causing harmful interference’* to licensed radio operators.”¹¹ As we have shown throughout the proceeding, that requires RLANs to be under the control of an AFC.

Respectfully submitted,



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⁹ Boeing Letter at 3.

¹⁰ Boeing Letter at 3.

¹¹ *ARRL v. FCC*, 524 F.3d at 234 (emphasis added).